WHAT IS CLAIMED IS:

1. A high-frequency coagulation apparatus comprising:

a tubular body having at an end thereof an opening portion which opens in a predetermined direction;

a high-frequency electric current generation section for generating a high-frequency electric current;

a first electrode exposed and provided at an end portion of said tubular body;

a second electrode capable of performing a coagulation treatment at a part to be treated of a living body positioned between said first electrode and said second electrode in cooperation with said first electrode by causing said high-frequency electric current to flow between said first electrode and said second electrode;

energizing means for electrically connecting said first and second electrodes with said high-frequency electric current generation section so as to cause said high-frequency electric current to flow between said first electrode and said second electrode;

a fluid supply section for supplying to said tubular body a fluid which is discharged from said opening portion of said tubular body and can transmit said high-frequency electric current supplied to said first electrode to said part to be treated of said

living body; and

a controller for controlling supply of said fluid from said fluid supply portion to said tubular body and controlling supply of said high-frequency electric current from said high-frequency electric current generation section to said first and second electrodes,

wherein said controller has a first mode for supplying a high-frequency electric current from said high-frequency electric current generation section to said first electrode and supplying said fluid from said fluid supply section to said tubular body, and a second mode for supplying said high-frequency electric current from said high-frequency electric current generation section to at least either said first electrode or said second electrode and interrupting supply of said fluid from said fluid supply section to said tubular body.

2. The high-frequency coagulation apparatus according to claim 1, wherein said first electrode and said second electrode are provided to said tubular body.

3. The high-frequency coagulation apparatus according to claim 2, wherein in said first mode, said first and second electrodes do not come into contact with said part to be treated of said living body; a third electrode which is separately provided from said tubular body is brought into contact with said part to be treated of said living body; and said high-frequency

electric current is caused to flow between said first electrode and said third electrode, and

in said second mode, at least either said first electrode or said second electrode is brought into contact with said part to be treated of said living body.

4. The high-frequency coagulation apparatus according to claim 3, wherein in said second mode, said both first and second electrodes are brought into contact with said part to be treated of said living body, and said high-frequency electric current is caused to flow between said first electrode and said second electrode.

5. The high-frequency coagulation apparatus according to claim 1, wherein said second electrode is separately provided from said tubular body and attached to said living body.

6. The high-frequency coagulation apparatus according to claim 5, wherein in said first mode, said first electrode is not brought into contact with said part to be treated of said living body, and said second electrode is brought into contact with said part to be treated of said living body, and

in said second mode, said first and second electrodes are brought into contact with said part to be treated of said living body.

7. The high-frequency coagulation apparatus

according to claim 1, further comprising a mode selection section for selecting either said first mode or said second mode,

wherein said controller includes:

a first control section for controlling supply of said high-frequency electric current from said high-frequency electric current generation section to said electrode;

a second control section for controlling supply of said fluid from said fluid supply section to said tubular body; and

a third control section for controlling said first control section and said second control section in accordance with selection of said mode selection section.

8. The high-frequency coagulation apparatus according to claim 7, wherein said first control section is a switch for switching connection states of an electric circuit extending from said high-frequency electric current generation section to said electrodes;

said second control section is an opening/closing valve provided in a flow path extending from said fluid supply section to said tubular body; and

said third control section controls said switch and said opening/closing valve based on a signal from said mode selection section.

9. The high-frequency coagulation apparatus

according to claim 8, wherein the operation of said switch is in cooperation with the operation of said opening/closing valve.

10. The high-frequency coagulation apparatus according to claim 1, wherein said tubular body can be inserted into a channel of an endoscope and said end of said tubular body to which said first electrode and said opening portion are provided can protrude and be retracted from an end opening of said channel of said endoscope.

11. The high-frequency coagulation apparatus according to claim 1, wherein said tubular body is a flexible tube.

12. The high-frequency coagulation apparatus according to claim 1, wherein said fluid supplied from said fluid supply section is inert gas.

13. The high-frequency coagulation apparatus according to claim 1, wherein at least either said first electrode or said second electrode is embedded in said tubular body by tubing molding or insert molding or bonded and fixed in a lumen provided to said tubular body.

14. The high-frequency coagulation apparatus according to claim 1, wherein said first electrode is provided in a flow path extending from said fluid supply section to said opening portion of said tubular body.

15. The high-frequency coagulation apparatus according to claim 1, wherein said flow path extending from said fluid supply section to said opening portion of said tubular body serves as both a water supply lumen by which water is supplied and a smoke exhaust lumen for emitting smoke generated in a high-frequency treatment.

16. The high-frequency coagulation apparatus according to claim 1, wherein said tubular body includes an end portion having said opening portion, a base end portion having an inlet portion at which said fluid from said fluid supply section is led, and an elongated flexible communication portion for connecting said end portion to said base end portion.

17. The high-frequency coagulation apparatus according to claim 16, wherein said end portion, said base end portion and said communication portion are integrally formed.

18. The high-frequency coagulation apparatus according to claim 17, wherein at least either said first electrode or said second electrode is integrally formed with said end portion and said communication portion.

19. The high-frequency coagulation apparatus according to claim 18, wherein said opening direction of said opening portion substantially matches with the longitudinal direction of a central axis of said

communication portion.

20. The high-frequency coagulation apparatus according to claim 19, wherein an end surface of said end portion forms a spherical surface having said central axis of said communication portion at the center thereof.

21. The high-frequency coagulation apparatus according to claim 20, wherein at least either said first electrode or said second electrode is exposed on said spherical surface or protrudes from said spherical surface.